

Ultralightweight, Regeneratively Cooled Combustion Chamber for Mars Ascent Vehicles, Phase I

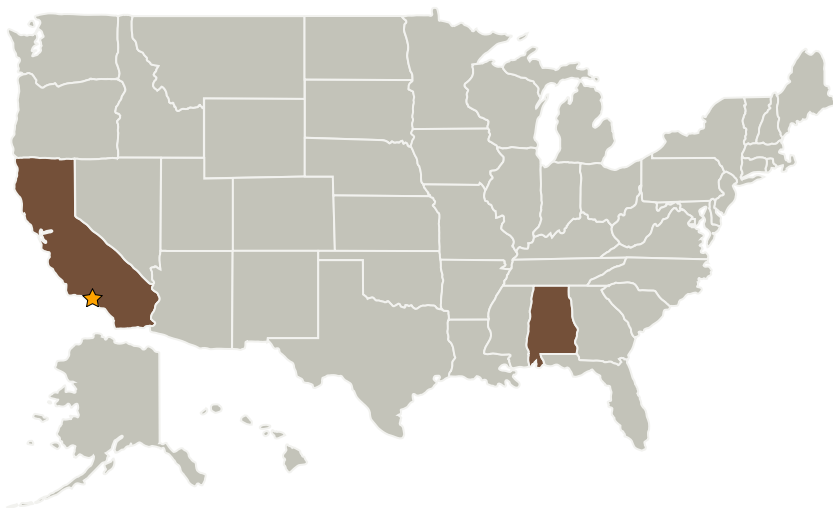
Completed Technology Project (2009 - 2009)



Project Introduction

We propose a high-pressure, regeneratively-cooled combustion chamber that uses novel material selection for extreme reductions in mass. These materials are manufactured using proven processes, processes in which our two team members are expert. The combustion chamber liner will be made of a high-temperature-capable, low density material; the structural jacket will be made of a metal matrix composite material, with a tailored CTE close to that of the liner.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Analytical Services, Inc. (ASI)	Supporting Organization	Industry Small Disadvantaged Business (SDB)	Huntsville, Alabama

Primary U.S. Work Locations

Alabama	California
---------	------------



Ultralightweight, Regeneratively Cooled Combustion Chamber for Mars Ascent Vehicles, Phase I

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Ultralightweight, Regeneratively Cooled Combustion Chamber for Mars Ascent Vehicles, Phase I

Completed Technology Project (2009 - 2009)



Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
 - └ TX12.4 Manufacturing
 - └ TX12.4.4 Sustainable Manufacturing